

REMARKS

Claims 1-7 are pending. Reconsideration and allowance in view of the following comments are respectfully requested.

Drawings Objections

The Office Action objects to Figures 19 and 21 as having inappropriate reference characters. In response, Applicants have provided a new sheet of drawings which corrects the issues directed to Figures 19 and 21. Accordingly, withdrawal of the objections are respectfully requested.

Prior Art Rejections

Claims 1, 3-4 and 6 stand rejected under 35 U.S.C. § 102(e) in view of Zhang et al. (U.S. Patent No. 7,136,541) and claims 2, 5 and 7 under 35 U.S.C. § 103(a) in view of Zhang and Utagawa (U.S. Patent No. 6,563,538). These rejections are respectfully traversed.

In Embodiments of the Present Invention, test interpolation data is obtained for a pixel location assuming the valid pixel location is actually a missing pixel. This test data is then compared with real pixel data at that location to obtain test interpolation data. The test interpolation data of all tested pixels is then used to determine an interpolation candidate for an actual missing pixel. These steps are repeated for a plurality of interpolation techniques. Once all of the interpolation candidates are obtained, then the actual replacement pixel is determined from the interpolation candidates.

Zhang et al. teaches a method to obtain a value of a missing pixel by determining the least harmful edge direction between adjacent pixels on opposing sides of the missing pixels and then obtaining a value for the missing

pixel using the least harmful edge. The least harmful edge is determined by finding which edge has the least difference in image characteristics between the pixels at the respective edge. *See column 17, lines 2-23.*

Once the least harmful edge is determined, Zhang et al. teaches determining the value of the missing pixel using an interpolation technique. The interpolation process is performed and the output of such process is the value for the missing pixel. Thus, Zhang et al. teaches interpolating once using a single interpolation process.

The Examiner argues that column 5, lines 50-60 teach a plurality of interpolation circuits each performing interpolation. This is incorrect. In column 5, Zhang et al. refers to determining the least harmful edge and the defining of pixels and subpixels in that edge. Different normalization calculations may be used to make this determination. However, this is not interpolation. Further, although different normalization techniques may be used, they are not used independently on the same pixels. In other words, one technique is chosen amongst a plurality of techniques and then this chosen technique is used on all pixels. The plurality of techniques are not used independently on each pixel.

Furthermore, Zhang et al. fails to teach comparing differences between test interpolation data and actual pixel data. Zhang et al. performs a single interpolation which is the end result for a missing pixel. It does not compare this interpolation data with any other pixel data.

Thus, Zhang et al. fails to teach, *inter alia*, a plurality of interpolation circuits each calculating interpolation candidate data of an interpolation pixel and test interpolation data of a plurality of pixels neighboring interpolation pixel, using different interpolation methods and a determining circuit for

selecting one of the interpolation circuits based on a difference between a test interpolation data and the actual pixel data, as recited claim 1.

Zhang et al. also fails to teach, *inter alia*, calculating interpolation candidate data of a interpolation pixel and test interpolation data of a plurality of pixels neighboring the interpolation pixel, using different interpolation methods and selecting one of the interpolation methods based on a difference between the test interpolation data and actual pixel data, as recited in claim 4.

Thus, Zhang et al. fails to teach each and every feature of independent claims 1 and 4 as required.

Further, Utagawa fails to remedy any deficiencies of Zhang et al. as Utagawa failed to teach aspects of the dependent claims.

In view of the above, Applicants respectfully submit that a rejection of either § 102 and § 103 have not been properly satisfied. Accordingly, reconsideration and withdrawal of the rejections are respectfully requested.

Conclusion

For at least the reasons above, it is respectfully submitted that claims 1-7 are distinguished over the cited art. Favorable consideration and prompt allowance are earnestly solicited.

In view of the above amendment, applicant believes the pending application is in condition for allowance.


Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Chad J. Billings, Reg. No. 48,917 at the telephone number of the undersigned below, to

conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.147; particularly, extension of time fees.

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Respectfully submitted,

By 
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